

CHEATHAM. (W.)

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NASAL REFLEXES AS A CAUSE OF DIS-  
EASES OF THE EYE.

BY

W. CHEATHAM, M.D.

*Lecturer on Diseases of Eye, Ear, Throat, and Nose, University  
of Louisville; Eye, Ear, Throat, and Nose Phy-  
sician to Louisville City Hospital.*

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## NASAL REFLEXES AS A CAUSE OF DISEASES OF THE EYE.

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This subject has not received at the hands of medical writers the attention which its importance demands. As our knowledge of nasal reflexes extends, the influence of this organ upon the condition of organs near, or remote, excites our wonder. But the subject is in its infancy, and greater marvels are doubtless yet to be brought to light. In illustration of the subject I will report some cases that have been under my care during the last twelve months.

Mrs. N., from an interior town, has, for some years, complained of weak eyes. She is hypermetropic  $\frac{1}{48}$ , and presbyopic, being forty-five years of age. Glasses correcting these defects of refraction and accommodation give her but little comfort. She has been fitted with glasses by several oculists, and submitted to

treatment at various times for her asthenopia or weak eyes, without obtaining relief. When she came to me I paralyzed her accommodation thoroughly, and after the usual test ordered spectacles, but without a satisfactory result. On further investigation of the case, I discovered that for some years she had suffered with nasal catarrh. I found a number of polypi in the right nasal cavity, and great engorgement of the mucous membrane in the left. Slight irritation with the probe immediately caused discomfort in the eyes. The polypi were removed by means of the cold snare, and the engorged mucous membrane reduced by the application of chromic acid, with relief to all symptoms referable to the eyes.

A striking case, illustrative of the effect of nasal reflex upon the eyes, I have quite recently discharged, entirely relieved. Mr. A., aged nineteen, had suffered from wry neck since birth. Tenotomy, by a surgeon of this city, gave him relief. After the head was straightened some of the muscles of the eye were found to be weak; this was corrected by an oculist in New York, as was also an existing myopic astigmatism. Mr. A. was still unable to study with comfort, and had to leave col-

lege. When he came to me his eyes were painful, and soon gave out when he attempted to use them. I found the muscles and glasses correct. He gave a history of a series of attacks of acute coryza, with nasal obstruction. I found the nasal septum deflected very much to the left, closing, with the assistance of an engorged inferior turbinated bone, that side of the nose completely. A very large turbinated engorgement closed the cavity on the right side, the passage of air through the nose being thereby rendered almost impossible. With the galvano-cautery and chromic acid all engorged nasal tissue was removed, and to-day he reads with as great comfort as he ever did. His improvement can be attributed to no other cause, since no other treatment was employed.

Mrs. S. comes to me complaining of pain in the left eye. Vision for distance is perfect. She is fifty years old, but is able to read the finest print with spectacles. The ophthalmoscope shows no lesion. I find both nares filled with polypi, the left side being the more occluded. These were removed by means of the cold snare, with relief to all discomfort in the left eye. In an article just written, and about to be published, I refer to two cases character-

ized by edema of the lids and conjunctiva, with great discomfort in and about the eyes, which is the result of the application of chromic acid to the nasal mucous membrane. All patients complain more of pain in the eye than in the nose, when this escharotic is applied to the lining of the latter. I meet almost daily in practice with cases of conjunctivitis and of keratitis (the phlyctenular form especially) which do not yield to treatment until after an existing nasal catarrh or eczema of the nose is relieved.

In the the paper above mentioned, attention is called to certain cases of glaucoma which have been relieved by stretching the nasal branch of the fifth nerve, and the theory is set forth that these cases may possibly be the result of chronic nasal disease. Watery and photophobic eyes are the almost constant accompaniment of the reflex act known as sneezing.

All oculists have seen affections of the eye as a result of diseased and irritable teeth. I have had two cases of acute conjunctivitis, in the last two months, which were the result of teething. The nerve connection between the eye and teeth is no more intimate than that between the nose and the eye. The nasal branch of the



ophthalmic supplies the mucous membrane covering the forepart of the septum of the nose, the forepart of the outer wall of the nares, as far as the inferior spongy bone, and joins the facial nerve. Meckel's or the spheno-palatine ganglion is the center of distribution of the nasal nerves. This ganglion has a motor root, the large petrosal of the facial, which joins the vidian nerve, a sympathetic root from the carotid plexus, and a sensory root from the fifth nerve. The branches of this ganglion supply or go to the optic nerve, the sixth nerve, the ophthalmic ganglion, which gives off the short ciliary nerves; the mucous membrane which covers the inferior and middle turbinated bones, lining of posterior ethmoidal cells, nasal septum, mucous membrane behind the incisor teeth, back part of roof of nose, the eustachian tube, and pharynx behind eustachian tube; through a ganglionic branch that enters the ophthalmic ganglion it gives off the long ciliary nerves, and with the infra-trochlear branch supplies the integument of the side of the nose, the conjunctiva, lachrymal sac, and caruncula lachrymalis. From this it will be observed how close the nerve connection is between the nose, where the branches of the great sympa-

thetic are so superficial, and the eyeball and its appendages.

I feel sure, if in many of the cases of so-called asthenopia the nose be examined closely, the cause will be discovered, and in many cases easily removed. It is in the anterior part of the nose especially that the offending lesion must be looked for, but it may be deeper seated.